
Autodesk® ArtCAM® 2018

What's New



Contents

New features	1
Creating vector shadows from reliefs	3
Selecting colours	5
Desktop analytics	8
Working with reliefs in real-time	9
Smoothing a relief	9
Scaling a relief	10
Creating a dome relief.....	10
Creating vectors using the guilloche technique	12
Creating reliefs with latent images	14
Miscellaneous enhancements	16
Autodesk Legal Notice	19
Index	35

New features

The following new features and enhancements have been introduced since ArtCAM 2017:

- **Creating vector shadows from reliefs** (see page 3) — You can now create vectors from reliefs to produce 2D designs that look 3D.
- **Selecting colours** (see page 5) — The **Colour** dialog has been replaced to provide greater flexibility when selecting user-defined colours.
- **Desktop analytics** (see page 8) — ArtCAM now includes a Desktop Analytics program to enable us to improve your user experience.
- **Working with reliefs in real-time** (see page 9) — When working with reliefs, several features now work in real-time, enabling you to instantly see the effects of your changes in the 3D view.
- **Creating vectors using the guilloche technique** (see page 12) — You can now create unique, intricate vector patterns using the guilloche technique.
- **Creating reliefs with latent images** (see page 14) — You can now create reliefs with latent images whose appearances change depending on the angle at which you look at them.
- **Miscellaneous enhancements** (see page 16) — ArtCAM includes several minor enhancements, such as, increasing the number of shortcuts you can create for **Toolbox** add-ins; providing support for 4K ultra-high-definition resolution screens; being able to preview textures before applying them to reliefs; returning points to their original Z height when creating an angled plane; simplifying editing polylines; being able to restore the ArtCAM interface directly from within the software; making it easier to identify active items in the Project Tree; specifying the default view displayed when creating a model; and specifying the language setting directly from within the software.



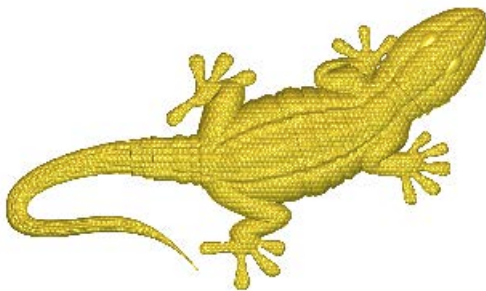
The availability of some features is license dependent.

Creating vector shadows from reliefs

You can now create vector shadows from reliefs, which enable you to produce 2D designs that look 3D.

To create the vector shadow, ArtCAM generates vector polylines from numerous cross-sections of the relief, and then projects these vectors onto the active vector layer in a specified direction and at a specified inclination.

For example, from this relief:



you can create these vectors:



To create a vector shadow from a relief:

- 1 Select the **Vector > Create > Vector Shadow** menu option. The **Tool Settings: Vector Shadow** panel is displayed and a preview of the vector shadow is displayed in red in the 2D and 3D views.

- 2 Choose the relief from which you want to create the vector shadow. Click:
 - **Composite relief** to create vectors from the composite relief of the active relief-layer stack.
 - **Selected relief layer** to create vectors from the active relief layer.
- 3 Enter a **Direction** angle, in degrees, or click and drag 📐 in the 2D or 3D views, to specify the direction in which you want to project the vectors. The preview of the vector shadow is updated.
- 4 Enter a **Shadow angle**, between 0 and 80 degrees, or click and drag 📐 in the 3D view, to specify the inclination at which you want to project the vectors. The preview of the vector shadow is updated.

 *Entering 0 projects the vectors directly down the Z axis.*
- 5 Enter a **Stepover** value to specify the distance between each resulting vector polyline.
- 6 Choose an option in the **Vector orientation** list. Select:
 - **Horizontal** to create horizontal vectors.
 - **Vertical** to create vertical vectors.
 - **Horizontal and vertical** to create horizontal and vertical vectors.The preview of the vector shadow is updated.
- 7 To use Bézier curves for the spans in the resulting vectors, select the **Smooth curves** check box. The preview of the vector shadow is updated.
- 8 Click **Create**. ArtCAM creates the vectors and groups them.

Selecting colours

The **Colour** dialog has been replaced with a new dialog, which provides greater flexibility when selecting user-defined colours. The dialog includes a colour wheel and new colour square to make it easier to specify colours of particular hues, saturations, and luminosities, and you can now select colours interactively from areas displayed on the screen.



*The name of the dialog changes depending on what you are selecting colours for. For example, if you are selecting colours to add to the colour **Palette**, the dialog is called **Add New Colour to Palette**, and if you are selecting a colour for the screen's background, the dialog is called **Set Background Colour**.*

The following example demonstrates how to use the new dialog when selecting colours to add to the **Palette**.

To add custom colours to the **Palette**:

- 1 Select the **Bitmap > Colour > Add Colours** menu option. The **Add New Colour to Palette** dialog is displayed.



- 2 Choose the custom colour you want to add:

- To select a pre-set colour, click a colour swatch in the **Preset Colours** area.
- To select a user-defined colour:

Click and drag the circle icons on the colour wheel and colour square;

Specify the colour's red intensity (**R**), green intensity (**G**), blue intensity (**B**), or its hue (**H**), saturation (**S**), and luminosity (**L**); or

Click and drag the pipette icon to a colour on the screen, then release the mouse button.

- 3 Click **Add to Custom Colours**. The colour is added to the palette in the **Custom Colours** area.
- 4 Repeat steps 2 to 3 to continue adding up to 16 custom colours.
- 5 Click **OK** to add the custom colours to the **Palette**.
- 6 Click **Cancel** to close the dialog.

Desktop analytics

To enable us to improve your user experience, ArtCAM now includes a Desktop Analytics program.

To find out more about Desktop Analytics, select the **Help > Desktop Analytics** menu option. The **Data Collection and Use** dialog is displayed.

Working with reliefs in real-time

When working with reliefs, the following features now work in real-time, enabling you to instantly see the effects of your changes in the 3D view:

- Smoothing a relief (see page 9).
- Scaling a relief (see page 10).
- Creating a dome relief (see page 10).



The availability of some features is license dependent.

Smoothing a relief

You can now smooth the surface irregularities on a relief layer in real-time.

To smooth irregularities on the surface of a relief layer:

- 1 In the Project Tree, select the relief layer.



- 2 Click the **Smooth Relief** button. The **Smooth Relief** panel is displayed.



*Alternatively, select the **Relief > Edit > Smooth** menu option.*

- 3 Choose the area of the relief layer's surface you want to smooth. Select:
 - **Whole Layer** to smooth the entire surface.
 - **Selected vector** to smooth an area of the surface within a closed vector, and then select the vector.

- **Selected colour** to smooth an area of the surface defined by a bitmap colour, and then select the colour in the **Palette**.
- 4 Enter a **Smooth strength** value, or move the slider, to specify the smoothing intensity.
 - 5 Click **Apply**.

Scaling a relief

When scaling the Z height of relief layers or specific areas of relief layers defined by vectors or bitmaps, you can now do so in real-time. You can also dynamically scale relief layers in the 3D view using the mouse.

To scale the Z height of a relief layer:

- 1 In the Project Tree, select the relief layer.

- 2 Click the **Scale Relief**  button. The **Tool Settings: Scale Relief** panel is displayed.



*Alternatively, select the **Relief > Edit > Scale** menu option.*

- 3 Specify the **Mask** and **Details** settings in the panel.
- 4 Click and drag the arrows in the 3D view to scale the height of the relief layer: click and drag the red arrow to change the **Scale factor** and **Scale height**; click and drag the purple arrow to change the **Detail height**.
- 5 Click **Apply**.



*The existing ability to scale a relief layer to an exact volume is now available using the new **Relief > Edit > Scale by Volume** menu option. Scaling a relief layer by volume does not work in real-time.*

Creating a dome relief

You can now create a concave or convex dome shape on a relief layer in real-time.

To create a dome on a relief layer:

- 1 Select the vector that represents the size and position of the dome you want to create.
- 2 In the Project Tree, select the relief layer.

- 3 Select the **Relief > Create > Dome** menu option. The **Tool Settings: Create Dome** panel is displayed, and a hemisphere is shown in the 3D view, which fits within the bounding box of the selected vector.
- 4 Specify the dimensions of the dome:
 - a To keep the dome's height and radius in proportion, select the **Lock height to radius** check box.
 - b Enter a **Maximum dome height**.
 - c Enter a **Dome radius** that is equal to or greater than the **Maximum dome height**.
- 5 Choose the type of dome you want to create. Select:
 - **Male** to create a convex dome.
 - **Female** to create a concave dome.
- 6 Choose how you want to combine the dome with the relief layer. Select:
 - **Add** to add the dome to the relief layer.
 - **Merge** to merge the dome with the relief layer.
- 7 Click **Apply**.

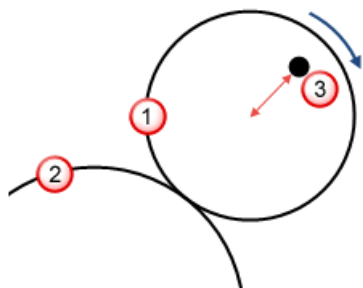


The availability of this feature is license dependent.

Creating vectors using the guilloche technique

You can now create unique, intricate vector patterns using the guilloche technique. The resulting patterns are difficult to reproduce without knowing the exact settings used, which can add a level of security to your design.

To create the vector pattern, ArtCAM rolls a circle ① along a fixed circle ②. It then creates a vector polyline from the resulting path of a fixed point ③, which is a specified distance from the centre of the rolling circle.



To create a vector pattern using the guilloche technique:

- 1 On the **Vector Creation** toolbar, click the **Guilloche**  button. The **Guilloche** panel is displayed.



*Alternatively, select the **Vector > Create > Guilloche** menu option.*

- 2 In the **Drive Circle** area:
 - a Enter the coordinates of the fixed circle's centre in the **Centre X** and **Centre Y** boxes, or click and drag  in the 2D or 3D views.

- b** Enter the **Radius** of the fixed circle.



*When you have entered a **Radius**, click and drag  on the fixed circle to change its size.*

- 3** In the **Rolling Circle** area:

- a** Enter the **Radius** of the rolling circle. A preview of the vector pattern is displayed in blue in the 2D and 3D views.



*When you have entered a **Radius**, click and drag  on the rolling circle to change its size.*

- b** Enter the **Point to centre distance**, or click and drag  in the 2D or 3D views, to specify the distance between the centre of the rolling circle and the point whose path ArtCAM uses to generate the resulting vector pattern. The preview of the vector pattern is updated.

- 4** Choose the method by which you want to roll the circle along the fixed circle. Select:

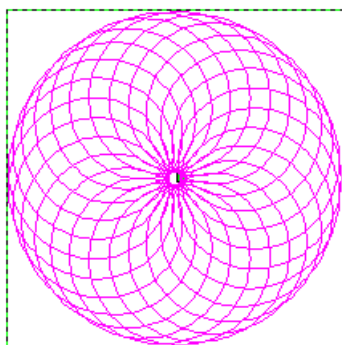
- **Inside** to roll the circle along the inside of the fixed circle.
- **Outside** to roll the circle along the outside of the fixed circle.

- 5** Enter a **Revolution limit** value to specify the number of times ArtCAM rolls the circle along the fixed circle. By default, ArtCAM rolls the circle the minimum number of times required to create a closed vector, up to 100 revolutions. To create an open vector, enter a limit that is less than the **Revolution to close** value. The preview of the vector pattern is updated.



Creating an open vector can produce vector patterns that are asymmetrical.

- 6** Click **Create** to create the vector pattern, for example:



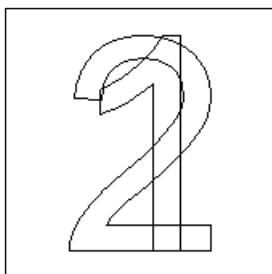
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Creating reliefs with latent images

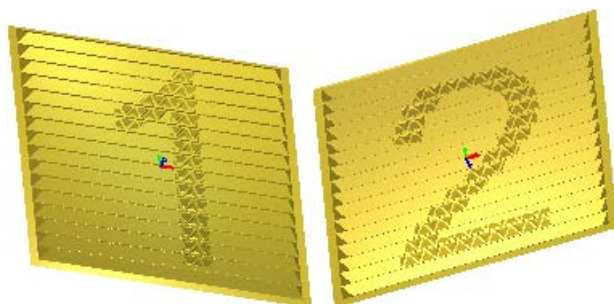
You can now create latent images within reliefs using vectors. This enables you to produce 3D designs whose appearances change depending on the angle at which you look at them. Latent imaging means you can be more creative with your designs and is useful as a security feature, for example, for reducing counterfeiting of coins.

To create latent images within a relief, ArtCAM generates corrugated sections on the active relief layer at a specified size and slope angle. It then uses closed vectors selected as latent images to create pockets within the numerous sections.

For example, from these two, overlapping vectors:



you can create the following relief that displays one image at one angle and another image at another angle:



To create a relief with latent images:



- 1 On the **Relief Creation** toolbar, click the **Create Latent Images** button. The **Create Latent Images** panel is displayed.



*Alternatively, select the **Relief > Create > Latent Images** menu option.*

- 2 In the **Number of Faces** area, choose an option to specify the maximum number of latent images you can embed within the relief.
- 3 Choose the latent images you want to embed within the relief:
 - a In the 2D or 3D views, select a closed vector, or group of closed vectors, that represents a latent image.
 - b In the **Latent Image Outlines** area, click **Set Image**.
 - c Repeat steps a to b to continue choosing latent images to embed.
- 4 By default, ArtCAM creates the relief across the entire selected relief layer. If you want to limit the area of the relief layer on which ArtCAM creates the relief:
 - a In the 2D or 3D views, select a closed vector that represents the extent of the relief.
 - b In the **Outer Boundary** area, click **Set Boundary Vector**.
- 5 Enter a **Size** value to specify the distance between the grooves of the corrugated sections.
- 6 Enter a **Slope angle**, between 0 and 90 degrees and measured from the relief layer, to specify the gradient of the corrugated sections.
- 7 Enter a **Draft angle**, in degrees and measured from the vertical, between 0 and the result of 90 less the **Slope angle**, to specify the taper of the pockets.
- 8 To limit the depth of the pockets within the sections, select the **Limit bottom height** check box, then enter a value in the box to specify the distance between the bottom of the pockets and the zero plane of the relief layer.
- 9 Click **Create**. ArtCAM calculates and creates the relief.



The availability of this feature is license dependent.

Miscellaneous enhancements

ArtCAM includes the following minor enhancements:



The availability of some features is license dependent.

Supporting ultra-high-definition screens

You can now display ArtCAM on screens using 4K ultra-high-definition (UHD) resolutions. This means you no longer have to change the display scale to accommodate the higher dots per inch (dpi).

Creating shortcuts for Toolbox add-ins

The number of menu entries and keyboard shortcuts you can create for add-ins available on the **Toolbox** panel has been extended from 12 to 24.

To create a shortcut for an add-in, use the **Window > Toolbox Shortcuts > Manage** menu option.

Previewing textures

When applying texture to a relief layer, you can now preview the texture before applying it. Blend effects and the combine mode cannot be previewed.

To apply texture to a relief layer, use the **Relief > Edit > Texture** menu option.

Creating angled planes

When creating an angled plane, you can now double-click the red arrows in the 3D view to return points to their original Z height.

To create an angled plane, use the **Create Angled Plane**  button on the **Relief Creation** toolbar or use the **Relief > Create > Angled Plane** menu option.

Editing polylines

Previously, when resizing a horizontal, or vertical, linear polyline using the **Tool Settings: Transform** panel, you needed to edit the **Width** and **Height** of the polyline's bounding box. To simplify this process, these two options have now been replaced by a single **Length** box.

To resize a polyline, use the **Transform**  button or the **Edit > Transform** menu option.

Restoring the interface

A **Window > Reset Workspace** menu option has been added, which replaces **Reset Autodesk ArtCAM Workspace** in the Windows **Start** menu or **Start** screen, and means you can now restore the ArtCAM interface directly from within the software. Selecting this menu option removes all customizations, and returns toolbars, menus, and panels to their default positions and states, when you next start ArtCAM.



*When you select **Window > Reset Workspace** while working on a model or project, you are prompted to close the model or project and then select the menu option again.*

Identifying active items in the Project Tree

Active items in the Project Tree are now coloured yellow to make it easier to identify which items you are working with.

Specifying the default view

You can now specify whether the 2D view or the 3D view is displayed by default when you create a model.

To specify which view is displayed by default:

- 1 Select the **Edit > Options** menu option. The **Options** panel is displayed.
- 2 In the **Miscellaneous** area, select the **Start new models in the 3D view** check box to display the 3D view by default. Deselect the check box to display the 2D view by default.
- 3 Click **Apply** to save your changes.

In addition, when you reopen a model, ArtCAM now displays the view that was active when you last saved the model.

Specifying the language setting

You can now specify the language setting for ArtCAM directly from within the software. Previously, you could do this only during the installation process.

To specify the language setting for ArtCAM:

- 1 Select the **Edit > Options** menu option. The **Options** panel is displayed.
- 2 In the **Miscellaneous** area, select an option in the **Language** list.
- 3 Click **Apply** to save your changes. This applies the next time you start ArtCAM.

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Index

A

Add-ins • 16
Analytics • 8
Angled plane • 16

C

Colours • 5
Customizations • 16

D

Dome reliefs • 10

G

Guilloche • 12

L

Language setting • 16
Latent images • 14

O

Options panel • 16

P

Patterns • 12
Polylines • 3, 12
Project tree • 16

R

Reliefs
 Angled plane • 16
 Dome • 10
 Latent images • 14
 Scaling • 10
 Smoothing • 9
 Textures • 16
Resolution • 16

S

Scaling reliefs • 10
Security feature • 12, 14
Shadow • 3
Smoothing reliefs • 9

T

Textures • 16
Toolbox • 16
Transform • 16

V

Vectors
 Closed • 14
 Patterns • 12
 Polylines • 3, 12, 16
 Shadow • 3

W

Workspace • 16